



# RDD-10

## DIGITAL

## DELAY

### INSTRUCTIONS

● Please read the instructions carefully.

### FEATURES

The BOSS RDD-10 is a compact yet versatile digital delay machine. By changing the delay time range(9 steps) and modulation, you can enjoy various types of effects; not only echo but also flanging or doubling chorus effect, etc. Also, the Delay Tone Knob allows you to make a mild echo like an analog delay's as well as a sharp echo. Two RDD-10's can be set up through their Modulation Buses for modulation sync. Moreover, the phase of the modulation can be inverted with the Polarity Switch, creating wide variety of stereo effects. Both standard phone and pin jacks are provided for an output or input, and more, the Level Switch (-20dBm / -10dBm) is featured, allowing applied setups such as with audio and video equipment as well as usual use with musical instruments. The RDD-10 is one of the BOSS Micro Studio Series, and any two sets of them can be set up on the Standard 19" rack(EIA-1U) by using the optional rack mount adaptor RAD-10.

## Radio and television interference

**Warning** — This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or nonverified equipment is likely to result in interference to radio and TV reception."

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such an interference in a residential installation.

However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference, by the following measure:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable.

These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.

If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

"How to Identify and Resolve Radio-TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

### Bescheinigung des Herstellers / Importeurs

Hiermit wird bescheinigt, daß der/die/das

DIGITAL DELAY RDD-10

(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl Vfg 1046/1984

(Anmeldebestätigung)

funkentstört ist.

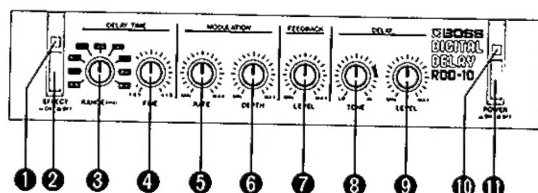
Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingetragen.

Roland Corporation Osaka/Japan

Name des Herstellers/Importeurs

## ■ PANEL DESCRIPTIONS

### <FRONT PANEL>



#### ① EFFECT INDICATOR

This lights up when the effect is turned on. So you can easily see whether the unit is in the Normal or Effect mode.

#### ② EFFECT SWITCH

Each time you push this switch, the unit is alternately turned to the Effect and Normal modes.

#### ③ DELAY TIME RANGE

This selects a delay time range of 9 steps from 1.5 to 400ms.

#### ④ DELAY TIME FINE

This finely adjusts the delay time range you have set with the Delay Time Range Knob ③ in the range of "×0.5" to "×1" continuously.

\* By using the above knobs ③ and ④, the delay time range can be continuously changed from 0.75 to 400ms.

#### ⑤ MODULATION RATE

This changes the frequency of the LFO oscillation. Rotating the knob clockwise will quicken the speed of the modulation.

#### ⑥ MODULATION DEPTH

This adjusts the depth of the LFO modulation. Rotating it clockwise will deepen the modulation, and at its fully counterclockwise position, no modulation is obtained.

#### ⑦ FEEDBACK LEVEL

This is to set how many times the delay sound is to be repeated. Rotating the knob clockwise will make more repetitions, and at its fully counterclockwise position, a single delay is obtained.

#### ⑧ DELAY TONE

This adjusts the tone color of the delay sound. As you rotate the knob counterclockwise, the higher frequencies are cut off, making softer tone color. At the 3 o'clock position, almost flat frequency response is obtained.

#### ⑨ DELAY LEVEL

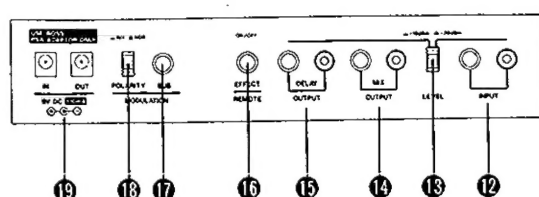
This adjusts the amount of the delay signal. Rotating it clockwise will increase the volume of the delay sound, and at its fully clockwise position, the volume is equal to the direct sound.

#### ⑩ POWER INDICATOR

This lights up when the unit is turned on.

#### ⑪ POWER SWITCH

## <REAR PANEL>



### 12 INPUT JACKS

Connect a musical instrument or audio equipment to this jack.

- \* The standard phone and pin jacks do not work at a time. If both are simultaneously used, the standard phone jack will have priority.

### 13 LEVEL SWITCH

Set this knob to an appropriate position depending on the type of the connected device.

### 14 MIX OUTPUT JACKS

Through this jack, mixed signal of direct and delay will be sent out.

- \* Both the standard phone and the pin jacks can be simultaneously used. If, however, the standard phone jack of the Delay Output is plugged in, only direct sound will be sent out through the Mix Output. (If the pin jack of the Delay Output is used, the delay sound will be still heard.)

### 15 DELAY OUTPUT JACKS

Through this jack, only delay sound is sent out.

- \* When the standard phone jack is used here, the Mix Output does not send any delay signal.

### 16 EFFECT REMOTE JACK

Connect the footswitch FS-1 (optional) to this jack, and Normal/Effect modes can be changed without reaching out your hand.

- \* The above function cannot be obtained if the Effect Switch on the front panel is turned off. When two RDD-10's are setup, connect the Remote Jacks of the two units, and Normal/Effect of the two units can be controlled by either of them.

### 17 MODULATION BUS JACK

When you setup two RDD-10's to obtain stereo effect, use this jack to sync the modulations of the two RDD-10's. (See "MODULATION BUS")

### 18 POLARITY SWITCH

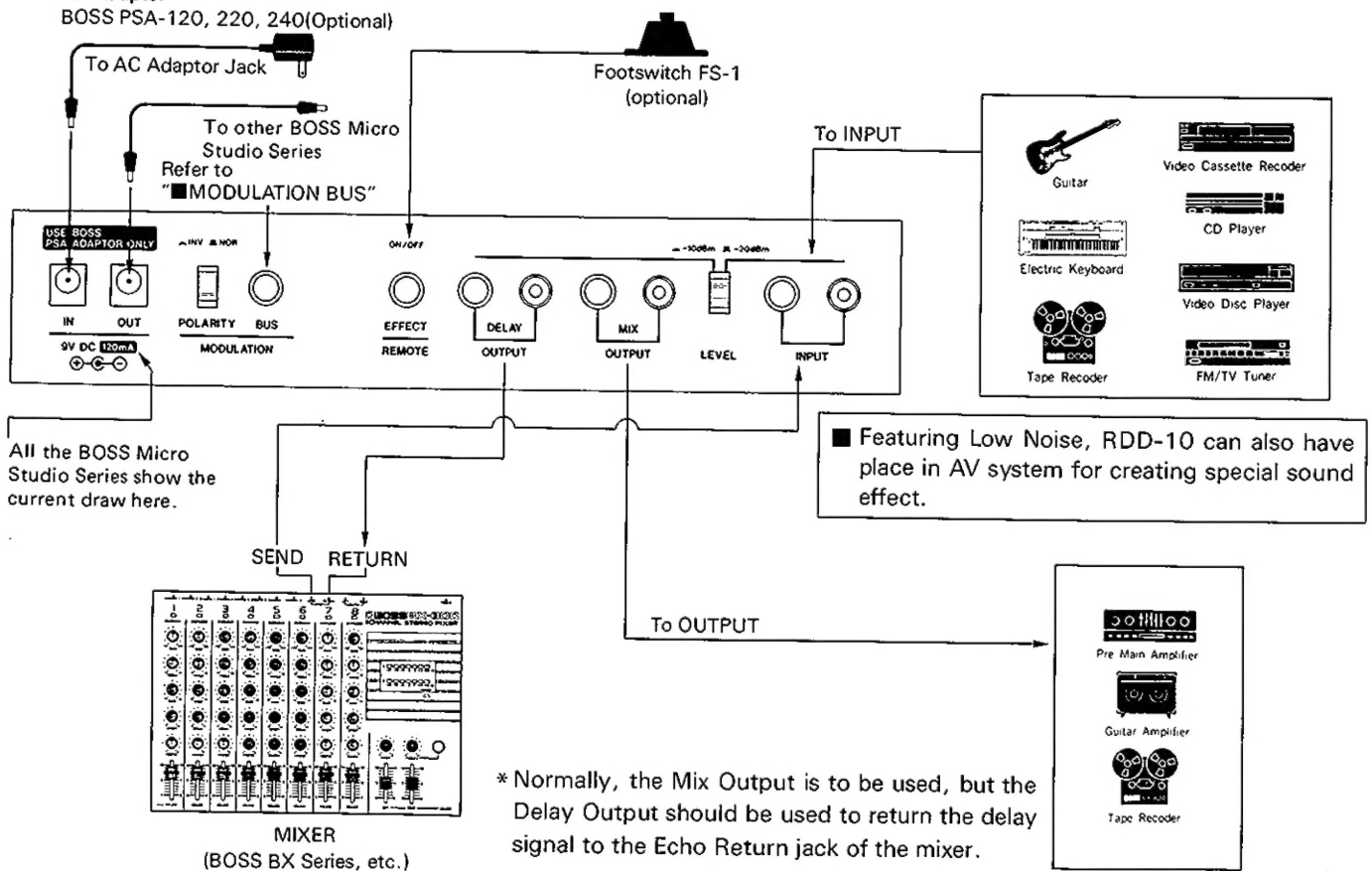
When using two RDD-10's, you may use this switch to invert the polarity of the modulation in one of the RDD-10's.

### 19 AC ADAPTOR JACKS

This is to connect the AC Adaptor (BOSS PSA-120, 220 or 240). When using this unit to supply power to other BOSS Micro Studio Series, connect the supplied DC cord to "OUT". Otherwise use the "IN" jack.

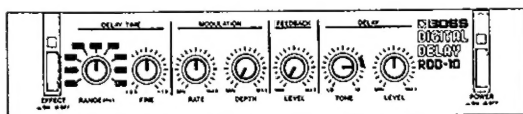
## ■ CONNECTIONS

AC Adaptor  
BOSS PSA-120, 220, 240(Optional)



## ■ OPERATIONS

- ① Set the controls on the panel as shown below.



- ② Set the Level Switch to the appropriate position depending on the type of the connected unit.

\* If it is the noise that you wish to avoid more than anything, set the switch to "−20dBm". Changing the position of the Level Switch will not affect the volume.

- ③ Set a delay time by using the Delay Time Range and the Fine Knobs. 1.5 to 6.0ms is required for a flanging effect, 12.5 to 50ms for a chorus effect and 50 to 400ms for delay(echo) effect.
- ④ Adjust the rate of the LFO modulation with the Modulation Rate Knob, and the depth with the Depth Knob. Usually, set the rate slow and the depth deep for a flanging effect, and set both knobs to the center positions for chorus. For a delay(echo) effect, set the Depth Knob to "MIN".

- ⑤ Adjust the Feedback Level with the Feedback Level Knob. At the "MIN" position, single delay is obtained. When the delay time is long (=echo effect), the Feedback Level Knob serves to set how many times the delay sound is to be repeated. When it is set short(=flanging effect), the same knob serves to adjust the resonance.

\* As you rotate the Feedback Level Knob clockwise, the unit may start oscillating.

- ⑥ Make a tone color you like with the Delay Tone Knob.

- ⑦ Adjust the volume of the delay sound with the Delay Level Knob. At the "MAX" position, the delay sound is equal to the direct sound.

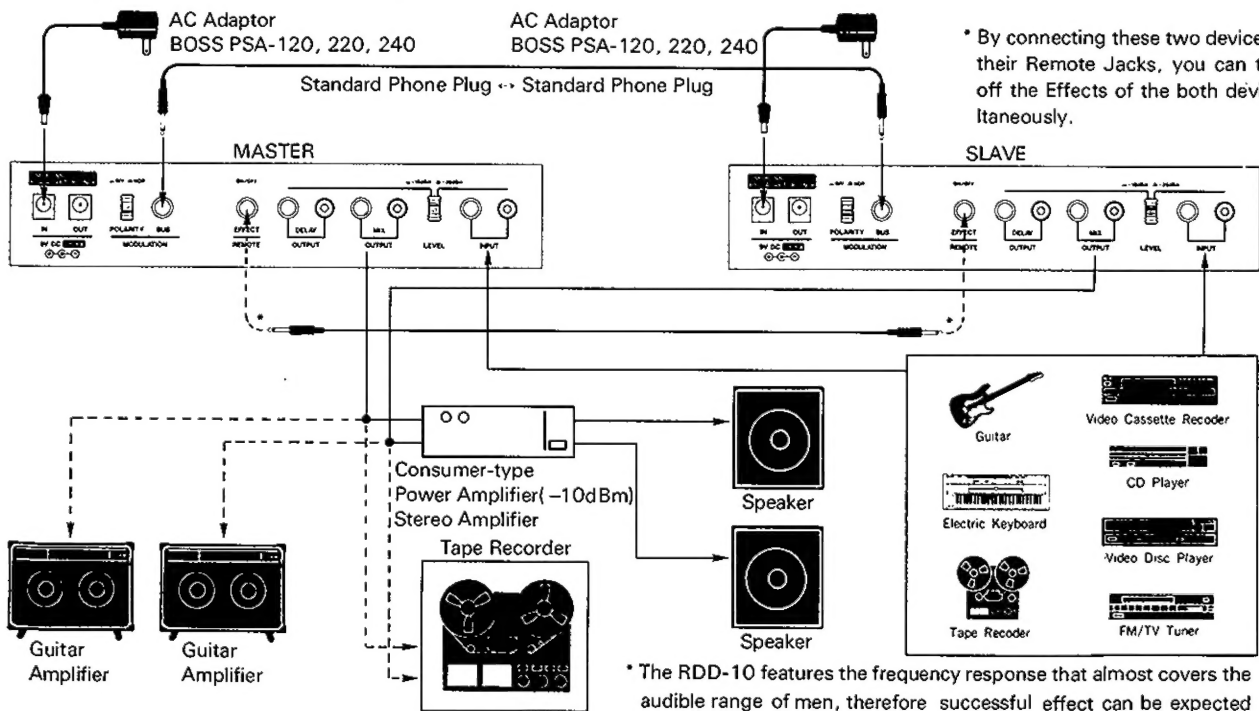
\* Both the standard phone and the pin of the Output Jacks can be simultaneously used. If, however, the standard jack of the Delay Output is plugged in, the Mix Output sends out no delay signal but only the direct signal. In this way, the direct and delay sounds are separately send out, resulting in stereo effect.

## ■ MODULATION BUS

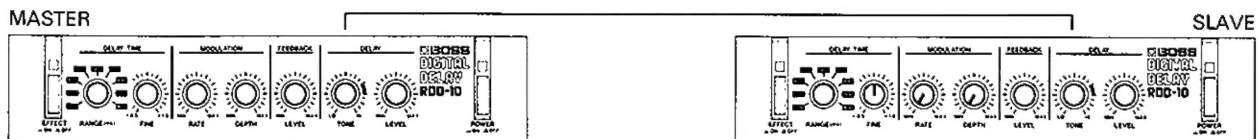
By connecting two RDD-10's through their Modulation Buses, various delay effects can be obtained.

\* The left RDD-10 is used as a Master, and the other as a Slave.

1 Set up two RDD-10's as shown below.



2 Set the Delay Time Fine and the Modulation Rate, Depth Knobs as shown below.



\* To avoid excessive amount of two mixed modulation, set the Delay Time Fine Knob on the Slave unit to the center position, and the Depth Knob to the "MIN" position. With the Depth set to the "MIN" position, the Rate has Knob no effect.

3 To make the sound you like, move the controls on the front panels except the Delay Time Fine and the Modulation Depth Knobs on the Slave.



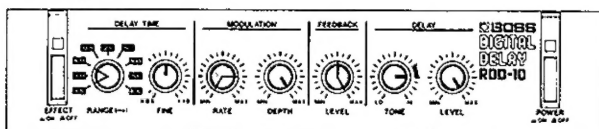
\* Inverting the polarity of the modulation on either unit may be interesting.

\* When two RDD-10's are set up and the Effect Remote Jacks of the two units are connected, Normal/Effect of the both units can be changed by pushing the Effect Switch on either unit.

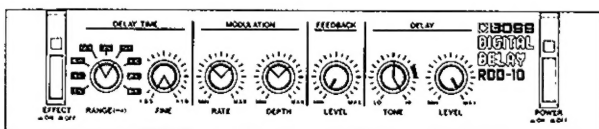


## ■ Example Settings

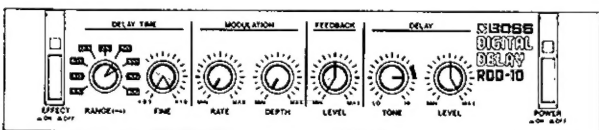
### ○ Flanger



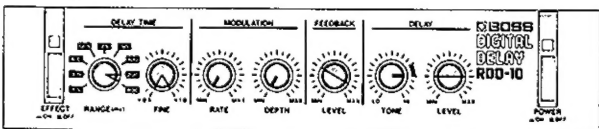
### ○ Chorus



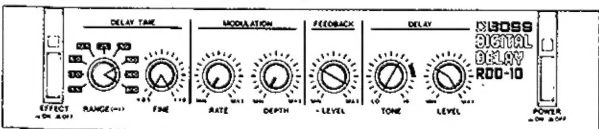
### ○ Short Echo



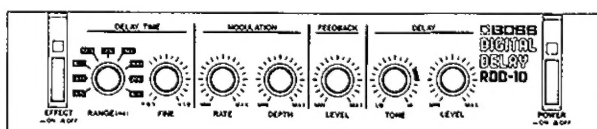
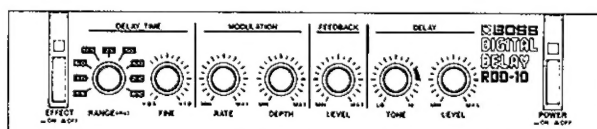
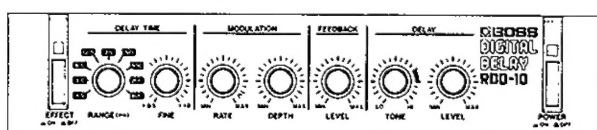
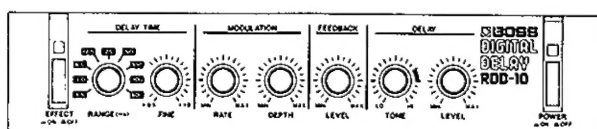
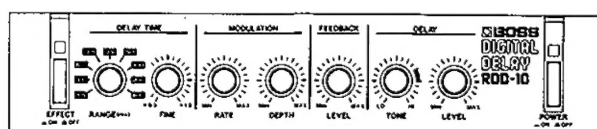
### ○ Long Echo



### ○ Echo Like Analog Delay's

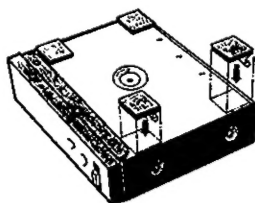


## ■ Setting Memo



## ■NOTES

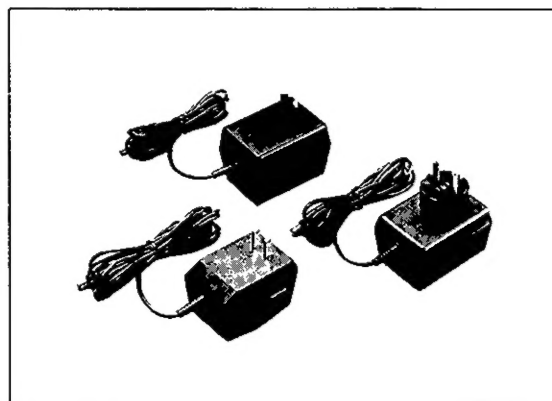
- Be sure to use the BOSS AC Adaptor PSA-120, 220 or 240 depending on the line voltage system in your country.
- When you are using only one AC adaptor for supplying power to more than one unit, please be sure that the total current draw does not exceed 200mA. Please note that two AC adaptors are needed for supplying power to two sets of the RDD-10's
- Avoid operating this unit in excessive heat or humidity or where it may be affected by dust.
- Please never remove the cabinet from the unit.
- When you use only Micro Studio Series without optional Rack Mount Adaptor "RAD-10", please attach the rubber feet. Refer to figure.



## ■AC ADAPTOR

### BOSS PSA-120, 220 or 240 (Optional)

Be sure to use the Adaptor BOSS PSA-Series. Using any other type of adaptor may cause trouble.



## ■RACK MOUNTING

The RDD-10 is one of the BOSS Micro Studio Series, and any two of them can be mounted in a standard 19" rack (EIA-1U) by using the optional Rack Mount Adaptor RAD-10.

Remove the rubber feet from the bottom of the units, fix the units on the Rack Mount Adaptor with the supplied screws, then place the whole set on the rack.

## ■ SPECIFICATIONS

### Input Level/Input Impedance:

−20dBm/1M $\Omega$ , −10dBm/47k $\Omega$

### Output Level/Output Impedance:

−20dBm/2k $\Omega$ , −10dBm/2k $\Omega$

### Output Load Impedance:

Over 10k $\Omega$

### Delay Time:

0.75ms to 400ms

### Frequency Response:

Direct : 10Hz to 60kHz ( $\pm 1$ dB)

Delay : 20Hz to 15kHz ( $\pm 1$ dB)

### Residual Noise:

Under −90dBm (IHF-A,

Level Switch: −20dBm)

### Controls:

Delay Time Range (9 steps)

Delay Time Fine

Modulation Rate

Modulation Depth

Feedback Level

Delay Tone

Delay Level

### Switches:

Power

Effect (ON/OFF)

Level (−20dBm/−10dBm)

Modulation Polarity (INV/NOR)

### Jacks:

Input (Standard Phone, Pin)

Mix Output (Standard Phone, Pin)

Delay Output (Standard Phone, Pin)

Effect Remote (ON/OFF)

Modulation Bus

AC Adaptor(IN, OUT)

### Indicators:

Power

Effect

### Power:

9V DC (BOSS PSA-120, 220 or 240)

### Current Draw:

120mA

### Dimensions:

218(W) x 44(H) x 169(D) mm

8-9/16" x 1-3/4" x 6-11/16"

### Weight:

900g/2 lb

### Accessories:

DC Cord (0.5m)

## OPTIONS

### AC Adaptor:

BOSS PSA-120, 220 or 240

### Rack Mount Adaptor:

RAD-10

### Footswitch:

FS-1

### Micro System Rack:

BMR-5

- Specifications are subject to change without notice.

### BOSS Micro Studio Series

<b>RCL-10</b>	Compressor/Limiter
<b>RBF-10</b>	Flanger
<b>RGE-10</b>	Graphic Equalizer
<b>RPH-10</b>	Phaser
<b>RDD-10</b>	Digital Delay



**Products of Roland**

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